DISTRIBUTED WIND ENERGY ASSOCIATION

our Wind our Power our Future

DRAFT DWEA COMMENTS
TO MINNESOTA DEPARTMENT OF COMMERCE
Due 9/15/12

September 18, 2012

Minnesota Dept. of Commerce
Division of Energy Resources
Attn: Ms. Lise Trudeau
85 Seventh Place East, Suite 500
Saint Paul, MN 55101

RE: Comments on the impacts (costs, values, and benefits) on safety, reliability, and rates associated with increasing levels of clean distributed generation in Minnesota.

Dear Minnesota Division of Energy Resources:

The Distributed Wind Energy Association (DWEA) is a three year-old trade association comprised of manufacturers, distributors, project developers, dealers, installers, and advocates, whose primary mission is to promote and foster the responsible expansion of the American distributed wind energy industry. Our aim is to reduce or eliminate unwarranted barriers and develop and promote industry best practices, policies, and standards that will foster the safe installation and efficient operation of small and community-scale wind energy generation to off-set on-site energy consumption at homes, farms, businesses, and public facilities.

This letter is in response to the Minnesota Division of Energy Resources' request for comments in its August 15, 2012 "Baseline and Benchmarking" Webinar to "Identify the impacts (costs, values, and benefits) on safety, reliability, and rates associated with increasing levels of clean distributed generation in Minnesota."

DWEA commends DER's data collection and research efforts regarding net metering policies in Minnesota and across the country. DWEA concurs with the DER data from the August 15th Webinar that shows Minnesota lags far behind most states in developing distributed generation energy policy.[1]

The DER is well positioned to recognize that when examining costs and benefits of implementing policies that encourage development of certain technologies like Distributed Generation that the values created by the development are not always quantifiable in some spreadsheet in a utility rate case. The DER has recognized that there is a misalignment between the drivers for customer choice and the costs / values to the system. Key value parameters supporting the development of Distributed Wind systems are local ownership, local economic benefit, and local job creation. Other types of utility system operational and reliability benefits also are not specific to a particular load serving utility that may be hosting the DG system. The mismatch between who incurs the costs, who gets the benefits, and who captures the value inherent in deploying these systems is at the heart of the Public Policy debate around

[1] Reference: Slide 18, and 29.

Distributed Generation. Much has been written about the misalignment of costs and benefits surrounding DG systems.[2] Much work still needs to be done to eliminate this disincentive to deployment.

DWEA recognizes the leadership that Minnesota has taken in developing Community Wind strategies. The local economic benefits of Community Wind have been subject of much analysis on a national and state basis.

DWEA provides the following comments on costs, values, and benefits as requested by DER, and recommends several policy changes to enhance distributed generation in Minnesota.

I. Identify the impacts on safety, reliability, and rates associated with increasing levels of clean distributed generation in Minnesota.

A. The discussions that have occurred in the DER stakeholder process so far have indicated that safety and reliability have not been big issues with DG expansion to date. Utility engineers understand what is required to interconnect and safely operate DG systems. Some existing regulatory items such as the requirement for an outdoor disconnect switch should be revisited to determine whether this costly device for small systems can be eliminated without significant impact to safety or reliability.

B. As levels of DG deployment increase, and the degree of sophistication in distribution system intelligence (smart grid systems) are simultaneously deployed by utilities, opportunities for increasing safety and system reliability will also increase. Synergies in optimization of DG resources, demand side resources in a Microgrid type of management system at the substation and feeder level will enable increases in system reliability, even perhaps intentional islanding, and enable utility avoided costs in otherwise conventional construction strategies that previously would have been deemed needed to maintain system reliability. An example of this is available in recent work in other states has shown that a 15% penetration level on an individual feeder need not be an absolute cap on DG development levels.[3]

C. New tools have become available such as the MISO Dispatchable Intermittent Resources (DIR) program that can now potentially be leveraged to enable utilizing even DG wind resources in transmission congestion management strategies. The transmission line construction costs avoided by choosing this type of congestion management option can be redirected to compensate DG facilities for providing this system reliability benefit.

D. Eligible Turbines. DWEA strives to protect consumers and utilities from poorly performing generators and recommends that wind turbines eligible for net metering and other incentives be required to meet the following criteria:

Turbines installed after December 31, 2012 must maintain good standing on the Interstate Turbine Advisory Council's Unified List (http://www.cleanenergystates.org/projects/ITAC/itac-unified-list-of-wind-turbines/) and those with rotor areas up to 200 m2 must carry an up to date certification from the Small Wind Certification Council or other accredited certification body to AWEA 9.1-2009.

[2] See for example a 2007 DOE study: "The Potential Benefits of Distributed Generation and Rate-Related Issues That May Impede Their Expansion" http://www.ferc.gov/legal/fed-sta/exp-study.pdf

[3] See Hawaii PUC decision dated Nov 29, 2011 in Docket No. 2010-0015, to allow up to 50% solar penetration on individual feeders.

In addition, all wind turbines must comply with the requirements of UL 6142, UL 6141 or equivalent electrical safety standards and the requirements of the National Electric Code NFPA 70. The inverter, converter, controller or other device that monitors the grid must comply with the requirements of IEEE 1547 and the NEC for interconnected electric power production sources.

These requirements would align Minnesota net metering policy with emerging requirements for incentive programs in a number of states including New York, Massachusetts, Oregon, and Wisconsin. Further, they would protect utilities against "bad apple" turbines by ensuring proven technologies and consistent power output.

II. "Impacts and Fees" – these will be the topics of the Oct 11 stakeholder meeting.

A. Transparency – Demand and Standby Charges. DWEA acknowledges that utilities must design their systems carefully and incur expenses to accommodate more power; demand and standby charges are appropriate for recovering utilities' fixed costs. However, lack of transparency regarding the formulation of those charges undermines net metering policy and raises questions about fair cost to customer-generators. DWEA looks forward to engaging stakeholders in a cost-benefit analysis of net metering and DG tariff rate fixed cost recovery in the near future. DWEA supports shielding customer-generators from unfair and/or unnecessary fees and charges as a means to facilitate distributed generation.

DWEA agrees that it is important to accurately identify and quantify the impacts of DG (costs, values, benefits); this can be difficult because costs and values of DG vary geographically and in time. The analysis of the need for and proper valuation of demand and standby charges should be reviewed in the context of the wholesale MISO Market that Minnesota utilities use to purchase their energy needs.

B. Utility Fees for distribution system facilities needed in support of the DG interconnection should be reexamined. The practice of requiring the interconnection generator to pay 100% of the cost of these type facilities should be reviewed and the cost/benefit of the new facilities to existing load should be considered in the allocation of costs to the DG installation.

III. Propose near term improvements to policies

The DWEA proposes the following near term policy options to increase DG accessibility and process transparency.

A. Create DG set-asides or carve-outs under renewable portfolio standards. It is apparent that so far utilities in Minnesota have found it convenient to achieve their RES goals through acquisition of chunks of renewable energy primarily from projects in the 100 MW and above category. Creating a requirement that a significant fraction of the RES goals be met by acquiring renewable energy from small scale distributed Generation is necessary to ensure development of DG resources. The state should provide equitable support for clean distributed resources including wind, to enable deployment on a MW basis on a par with solar to ensure diversity of resources. The state should adopt technology-neutral distributed generation enabling policies,

B. Net Metering. The DER has pointed out that 43 States + DC and 4 territories have policies in place that support net metering at retail. It is obvious that this is a standard policy tool used throughout the nation. The data from the DER slides shows that most of the other states have Net Metering KW limits above the 40 KW Minnesota limit. Although Minnesota was a leader in establishing Net Metering policy in the 1980s, the record of development of renewable facilities in Minnesota shows that Minnesota has developed only 989 Net Metered facilities over the 30 year time frame the rules have been in place. This compares to development levels nationwide of over 180,000 such facilities over the same time period.[4] Even more troubling is that the DER data shows that among the top ten utilities in Minnesota only 183 Wind Technology DG systems have been deployed from the early 1980s to date.[5]

Near term policy improvements to increase deployment of wind and solar systems include:
1) Revising the Net Metering payment provisions to result in an annualized settlement instead of monthly. Eliminate cash payouts for surplus energy delivered to the utility.
2) Investigate what can be done under Public Utility Commission authority to establish Feed in Tariffs on a par with Net Metering Rates for DG systems, and
3) Simplify the interconnection process so that a single meter can be used at the utility customer interface, and to develop streamlined utility approval for "pre certified" components and systems.

C. Standby Charges and Demand Rates. Since the time when these charges were built into the PUC Order, we have seen a maturation of the MISO Market and expansion of participation of state utilities in the MISO. An investigation into whether how these types of charges are required in an environment where the utilities buy all their energy from MISO should be a key part of optimizing rates structures for DG. Development of Off-peak rate tariffs that allow the consumer to take advantage of advanced storage technologies, and go completely off-peak would be beneficial. This would not only help consumers who want to utilize local clean energy resources, but would also benefit the system by helping to avoid building expensive transmission lines and big power plants to keep up with increasing peak demand.

D. REC Ownership. DWEA supports establishing the customer-generator as the owner of renewable energy credits (RECs) and associated environmental attributes. The customer-generator should have the freedom to trade, sell, or use RECs produced by their system as REC market regulations allow. DWEA advocates that utilities should compensate customer-generators for all renewable energy produced, not merely the net excess energy.

E. Meter Aggregation/Community Net Metering. DWEA encourages policies that allow aggregation of multiple meters that are not physically adjacent. For example, New York's "remote" net metering law permits eligible customer-generators to designate meter credits from equipment located on property that they own or lease to any other meter that is located on property owned or leased by the same customer and is within the same utility territory and load zone as the net-metered facility. Credits accrue to the highest-use meter first, and excess credits may be carried forward from month to month.

We suggest defining "meter aggregation" under Minnesota's Community-Based Energy Development (C-BED) legislation as the administrative combination of readings from and billing for all meters, regardless of the rate class, on premises owned or leased by a customer-generator located within the service territory of a single electric utility.

[4] See DER slides 18 and IREC "2012 Annual Updates & Trends Report" p. 5
[5] DER Slide 20.

We agree that a utility should be required to provide meter aggregation should a customer-generator request it. For customer-generators participating in a meter aggregation arrangement, kilowatt hours earned by a net metering system should be used first to off-set electricity supplied by the utility as usual. We suggest that any excess kilowatt-hour credits earned by the meter-aggregated system during the same billing period should be credited equally by the electric utility to remaining meters located on all premises of a customer-generator at the designated rate of each meter. Additionally, aggregated meters should not change rate class simply due to a meter aggregation arrangement.

F. Third-Party Ownership. DWEA fully supports third-party ownership of distributed generation energy projects in order to maximize financing opportunities through federal and state tax incentives. Third-party ownership is essential for utilizing federal tax credits, which can cut the cost of wind energy projects significantly. Explicitly mentioning third-party ownership clarifies the availability of these incentives, which will draw financiers to community wind energy projects and lead to good-paying construction and engineering jobs. Pairing local wind and land resources with third-party capital will realize direct investment in Minnesota communities.

G. The state should adopt technology-neutral distributed generation enabling policies, including:

1) Develop Policies that are targeted towards development according to generator sizing,
2) Adopt "Made In USA" provisions, that reward installations that use more USA resources on a percentage of total cost basis.
3) Maximize policies that encourage renewable energy investments for public buildings,
4) Create streamlined permitting, and
5) Develop mechanisms that enable and stabilize renewable energy credit valuation.

H. Permitting. Minnesota can increase consumer access to distributed wind turbine systems by removing local permitting barriers, such as promoting model zoning ordinances and establishing permitting incentive programs for local jurisdictions that adopt model zoning ordinances. DWEA has available a Model Ordinance for your use.[6] Streamlining interconnection procedures for "pre certified" equipment, a term already in the existing Interconnection procedures would also increase access.

IV. Long term solutions to increasing levels of distributed resources

In order to provide accurate economic signals to align distributed generation investment with system costs, values, & benefits over the longer term; adopt utility business models DER should investigate these longer term policy incentives.

A. Power injection from DG systems to the transmission system can create value. The DER should plan for how to capture value from existing MISO tariffs that compensate generators for participating in transmission congestion management activities.

B. Similarly an investigation should begin into state policies that allow DG systems to capture financial value from the MISO ancillary services market.

[6] See: http://www.distributedwind.org/sample-ordinance

C. The DER should develop DG Tariff proposals that account for the value of storage co-located with DG systems. This effort, coupled with recognized value available from demand side resources will enable a Microgrid DG tariff to be developed.

D. In Minnesota most of the electric distribution system where Distributed wind systems could be easily deployed is in electric cooperative service territory. Long term policies that will encourage small scale wind development must include a component that creates value for these distribution cooperatives if they are to be receptive to this technology. As it sits today, the power sales agreement for a wind turbine installed on a cooperative system is with the Generation & Transmission entity that supplies power to the local cooperative. Any direct financial benefit from the power exported by these turbines by passes these local member owned nonprofit entities.

These local electrical cooperatives have as a central core of the business model the mission to provide financial benefit to their members. These coops have been very diligent at containing operational expenses, but have been at the mercy of their G&T entity when it comes to actual energy costs as they are only in a position to pass through the energy costs they incur from the G&T to their member owners. At the same time there is little financial downside to the local cooperative from these wind systems.

Wind turbine systems do provide direct benefits to the cooperative member owners that install these systems. These coop members receive increased energy independence, the potential for backup power during system outages, and long term energy price stability.

Policy initiatives that allow the electric cooperatives to gain some financial benefit from helping their member owners install these wind systems should be considered. The electric cooperative line crews have all the skills necessary to install wind systems, and these cooperatives have already demonstrated they can provide value in purchasing appliances and internet communication services for their member owners. IF these local cooperatives see renewable systems as a profit center there will be increased deployment of these systems.

V. Suggested approach, methodology, or assumptions

One obvious point about the current status of DG deployment in Minnesota is that development so far has essentially been de minimis, a virtually safe level of impact to utilities rates. The level of deployment shown in slide 19 indicates that the contribution so far from Net Energy Metered systems to Minnesota's energy needs is only at 0.024% of retail sales statewide. It is an easy assumption that Minnesota can absorb a lot more DG with a net socio economic benefit than currently exists.

For example, if another 1000 installations of 10 kW wind systems were deployed in investor owned utility territory in Minnesota, the total energy produced (at the 20% capacity factor used by DER, and at an estimated retail price of $0.08/kw-hr) this would result in a total production value of $1,401,600/yr from these additional 1000 Net Metered wind turbines. Of this amount, perhaps 50% would be considered as "excess cost" by the utilities. If all this "excess cost" were allocated equally to all the 1,469,341 investor owned utility customers, the annual impact to their power bills would be $0.48. This would translate to a monthly bill impact of only $0.04/customer. This $0.48/customer/year would result in 17,520,000 kw-hrs of green renewable energy produced annually. We are a long way from having to worry about rate impacts from additional DG deployment. This analysis does not consider other savings to the utility that may accrue from locally produced energy, or the environmental benefits from this green energy from the offset of fossil fuel energy production.

Some of the revisions to Net Metering Policy that are needed, like revisions to the disconnect rule and the single meter improvement will likely have to include revisions to Minnesota Cogeneration and Small Power Production Rules, Chapter 7835. The Rulemaking process can get very complex and burdensome on all parties. The Public Utilities Commission should establish at the outset a narrow focus, and limited scope of issues to be examined in these rule revisions. This is essential to enabling the targeted revisions to proceed in a timely manner.

The DER should discuss with stakeholders how to add more substance and depth to the existing requirements in state law to examine and analyze DG as an alternative in the Biennial Transmission Plan process and in Certificate of Need proceedings.

In all analyses that the DER undertakes to quantify costs, benefits, and values, the societal socio-economic value attributes of DG should be a key determinant in balancing potential negative impacts to some stakeholders when compared with the greater long term societal value that can be obtained through expansion of DG in Minnesota.

DWEA appreciates the efforts of the Minnesota DER for undertaking such a transparent and thorough examination of existing net metering policy as a means to increase distributed generation. We look forward to contributing further to net metering and distributed generation policy developments.

Thank you for your consideration and please feel free to contact me with any questions.

Sincerely,

Jennifer Jenkins

Executive Director